

REMARKS/ARGUMENTS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office Action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claim 13 was rejected under 35 U.S.C. 112, second paragraph as being indefinite for lack of antecedent basis for "the working medium." Claim 13 has been amended herein to provide proper antecedent basis.

Claims 1, 5-7, 13-14, 16 and 45 remain rejected under 35 U.S.C. 103(a) over Labranque in view of Ebbeson and Fujitani et al. For the following reasons, reconsideration of the claims and withdrawal of the rejection is respectfully requested.

The Examiner states that Labranque discloses all of the claimed features "with the exception of the bodies being profiled bodies and the pressure being below atmospheric pressure where the working fluid is water and the absorbent is zeolite" (emphasis added). Thus Ebbeson and Fujitani are relied upon for suggesting the modification of Labranque to include these limitations. For the following reasons, the Applicant respectfully submits that one of ordinary skill in the art would not find any motivation in the prior art to make these modification.

Initially, Applicant respectfully points out that the zeolite does not absorb the water as stated by the Examiner, but rather the water is adsorbed on the surface of the zeolite. Whereas, Labranque teaches the use of a carbon-based sorption medium that absorbs ammonia. One of ordinary skill in the art would appreciate that these two systems, absorption

and adsorption are not interchangeable since they have different mechanisms for performing sorption, and thus they have fundamentally different design requirements.

Consider the process of sorption using zeolite and water, as in the present invention.

Water vapor is adsorbed on the surface of zeolite crystals. Since the water cannot be absorbed within the zeolite crystals, and thus all of the water vapor must be adsorbed on the surface, it is necessary to provide a large surface area and a means for distributing the water across the large surface area. In the presently claimed invention, the zeolite crystals are provided as string-shaped profiled bodies that form channels each having a large surface area on which the water can be adsorbed. The channels also provide transverse passages through which the water is led to be deposited over the surface of the zeolite crystals.

In contrast to the large surface area and transverse channels needed in an adsorption-type system, the absorption-type system of Labranque does not have these requirements. Instead, Labranque provides disk-shaped blocks of sorption medium which are clamped together. As one of ordinary skill in the art would recognize, since the ammonium is absorbed, the sorption medium is designed to use as much of the available space for sorption medium. Thus, longitudinal channels are provided which expose only the peripheral surfaces of the blocks to allow the ammonium to be absorbed into the blocks while maximizing the volume of the sorption medium into which the ammonium is absorbed. Further, since absorption of the ammonium occurs within the blocks, it is sufficient to provide only a small number of channels (32) with small openings (33) for the ammonium to penetrate the blocks. This is contrasted with the adsorption-type system of the presently claimed invention, wherein the amount of exposed surface area of the sorption medium is more important than its volume.

Appreciating the fundamental differences between absorption and adsorption, one of ordinary skill in the art would not be motivated to modify an absorption system, such as Labranque, to perform the adsorption taught by Ebbeson. The Examiner is respectfully reminded that "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." MPEP § 2143.01 (citing *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990)).

Applicant submits that one of ordinary skill in the art of sorption systems desiring construct an adsorption unit would consider relevant prior art relating to adsorption systems. Likewise, one seeking to construct an absorption unit would consider relevant prior art relating to absorption systems. However, absent some specific suggestion of the desirability of doing so, one of ordinary skill in the art of sorption systems would not consider prior art teachings relating to adsorption for designing an absorption unit, and vice versa.

The Examiner stated (in the telephone interview with Applicant's representative on September 8, 2003) that it would be obvious to modify Labranque based on Ebbeson because it would allow the sorption unit to operate using water and zeolite at lower temperatures. While the Examiner has recognized the differences in the suitability of each sorption system for use in a particular environment, this is not in itself sufficient motivation for a combination of the two. Applicant does not dispute that one of ordinary skill in the art of sorption systems would have knowledge of this difference between the zeolite and water system and the carbon and ammonium system and would be capable of selecting one or the other given specific operating requirements. This does not in any way suggest the desirability of combining the two systems. Such a combination is not necessary in order to meet operating temperature requirements, since the skilled person can merely select one or the other. Thus, no *prima facie*

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case of obviousness has been made with regard to modifying Labranque based on Ebbeson and Fujitani that is sufficient to support a rejection under 35 U.S.C. 103(a).

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 30882US1.

Respectfully submitted,

PEARNE & GORDON LLP

By:



Aaron A. Fishman, Reg. No. 44682

1801 East 9th Street
Suite 1200
Cleveland, Ohio 44114-3108
(216) 579-1700

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